# BACnet PICS DO-8

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| **Date:** | 07. 12.2009 |
| **Vendor Name:** | MBS GmbH |
| **Product Name:** | BACnet I/O module DO-8 |
| **Product Model Number:** | DO-8 |
| **Application Software Version:** | 1.0 |
| **Firmware Revision:** | 1.2 |
| **BACnet Protocol Version:** | 1 |
| **BACnet Protocol Revision:** | 4 |

**Product Description:**
The MBS DO-8 module is a highly reliable BACnet Digital-Output module supporting 8 channels digital relay output.

The module supports all standardized BACnet MS/TP baud rates from 9600 up to 76800 bit/s. The modules may run in MS/TP master and slave mode.

**BACnet Standardized Device Profile (Annex L):**
- ☐ **BACnet Operator Workstation (B-OWS)**
- ☐ **BACnet Building Controller (B-BC)**
- ☐ **BACnet Advanced Application Controller (B-AAC)**
- ☑ **BACnet Application Specific Controller (B-ASC)**
- ☐ **BACnet Smart Sensor (B-SS)**
- ☐ **BACnet Smart Actuator (B-SA)**

**List all BACnet Interoperability Building Blocks Supported (Annex K):**

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|---|---|
| **DS-RP-B** | Data Sharing-ReadProperty-B |
| **DS-WP-B** | Data Sharing-WriteProperty-B |
| **DS-COVU-B** | Data Sharing-ChangeofValue Unsolicited-B |
| **DM-DDB-B** | Device Management-DynamicDeviceBinding-B |
| **DM-DOB-B** | Device Management-DynamicObjectBinding-B |
| **DM-DCC-B** | Device Management-DeviceCommunicationControl-B |
| **DM-RD-B** | Device Management-ReinitializeDevice-B |

The fixed password for DeviceCommunicationControl and ReinitializeDevice services is: “BACnet-MBS-GmbH” encoded in the ANSI X3.4 character set.

**Segmentation Capability:**
- ☐ Segmented requests supported Window Size: -
- ☐ Segmented responses supported Window Size: -

**Data Link Layer Options:**
- ☐ BACnet IP, (Annex J)
- ☐ BACnet IP, (Annex J), Foreign Device
- ☐ ISO 8802-3, Ethernet (Clause 7)
- ☐ ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ☐ ANSI/ATA 878.1, RS-485 ARCNET (Clause 8) baud rate(s) _____
- ☑ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800

☑ MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400, 76800
☐ Point-To-Point, EIA 232 (Clause 10) baud rate(s) _____
☐ Point-To-Point, modem, (Clause 10) baud rate(s) _____
☐ LonTalk, (Clause 11) medium:_____
☐ Other: _____

**Device Address Binding:**
Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)
☐ Yes
☑ No

**Networking Options:**
☐ Router, Clause 6

☐ Annex H, BACnet Tunneling Router over IP

☐ BACnet/IP Broadcast Management Device (BBMD)
  ☐ Does the BBMD support registrations by Foreign Devices?

**Character Sets Supported:**
Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
☑ ANSI X3.4
☐ IBM™/Microsoft™ DBCS
☐ ISO 8859-1
☐ ISO 10646 (UCS-2)
☐ ISO 10646 (UCS-4)
☐ JIS C 6226

**If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:**
No gateway functionality yet.

**Remarks:**
If set to slave mode, the supported Device Profile is reduced to B-SA.

The BIBB DS-COV-U-B is not supported in slave mode.

The BIBB DM-DCC-B supports infinite lifetime only.

The BIBB DM-RD-B supports both cold-start and warm-start.

The BIBBS DM-DCC-B and DM-RD-B are supported with the optional password only. The fixed password is: “BACnet-MBS-GmbH”.

## Standard Object Types Supported:

The supported object-types are DEVICE (**BACnetObjectType** ::= ENUMERATED 8) and Binary-Output (**BACnetObjectType** ::= ENUMERATED 4).
Creation and Deletion of objects is not supported.

**Device Object Type**

| Property Identifier | Property Datatype | 1 | 2 |
|---|---|---|---|
| Object_Identifier | BACnetObjectIdentifier | R | W |
| Object_Name | CharacterString (max. 16 characters) | R | W |
| Object_Type | BACnetObjectType | R | R |
| System_Status | BACnetDeviceStatus | R | R |
| Vendor_Name | CharacterString | R | R |
| Vendor_Identifier | Unsigned16 | R | R |
| Model_Name | CharacterString | R | R |
| Firmware_Revision | CharacterString | R | R |
| Application_Software_Version | CharacterString | R | R |
| Location | CharacterString | O | - |
| Description | CharacterString | O | - |
| Protocol_Version | Unsigned | R | R |
| Protocol_Revision | Unsigned | R | R |
| Protocol_Services_Supported | BACnetServicesSupported | R | R |
| Protocol_Object_Types_Supported | BACnetObjectTypesSupported | R | R |
| Object_List | BACnetARRAY[N]of BACnetObjectIdentifier | R | R |
| Max_APDU_Length_Accepted | Unsigned (max. 50) | R | R |
| Segmentation_Supported | BACnetSegmentation | R | R |
| Max_Segments_Accepted | Unsigned | O | - |
| VT_Classes_Supported | List of BACnetVTClass | O | - |
| Active_VT_Sessions | List of BACnetVTSession | O | - |
| Local_Time | Time | O | - |
| Local_Date | Date | O | - |
| UTC_Offset | INTEGER | O | - |
| Daylight_Savings_Status | BOOLEAN | O | - |
| APDU_Segment_Timeout | Unsigned | O | - |
| APDU_Timeout | Unsigned (10.000 ms) | R | R |
| Number_Of_APDU_Retries | Unsigned (5) | R | R |
| List_Of_Session_Keys | List of BACnetSessionKey | O | - |
| Time_Synchronization_Recipients | List of BACnetRecipient | O | - |
| Max_Master | Unsigned (127) | O | R |
| Max_Info_Frames | Unsigned (1) | O | R |
| Device_Address_Binding | List of BACnetAddressBinding (empty) | R | R |
| Database_Revision | Unsigned (1) | R | R |
| Configuration_Files | BACnetARRAY[N] of BACnetObjectIdentifier | O | - |
| Last_Restore_Time | BACnetTimeStamp | O | - |
| Backup_Failure_Timeout | Unsigned16 | O | - |
| Active_COV_Subscriptions | List of BACnetCOVSubscription | O | - |
| Slave_Proxy_Enable | BACnetArray[N] of BOOLEAN | O | - |
| Manual_Slave_Address_Binding | List of BACnetAddressBinding | O | - |
| Auto_Slave_Discovery | BACnetArray[N] of BOOLEAN | O | - |
| Slave_Address_Binding | List of BACnetAddressBinding | O | - |
| Profile_Name | CharacterString | O | - |
| Baud rate (proprietary 701) | UNSIGNED: 9600, 19200, 38400, 76800 | O | W |
| MAC-address (proprietary 702) | UNSIGNED: 0-127 master, 128-254 slave | O | W |

1 = BACnet Conformance Code 135-2004
2 = BACnet Conformance Code DO-8

R = Required + Readable
W = Writable
O = Optional
- = Not supported

**Binary-Output Object Type**

| Property Identifier | Property Datatype | 1 | 2 |
|---|---|---|---|
| Object_Identifier | BACnetObjectIdentifier (1-8) | R | R |
| Object_Name | CharacterString | R | W |
| Object_Type | BACnetObjectType | R | R |
| Present_Value | BACnetBinaryPV | W | W |
| Description | CharacterString (max. 16 characters) | O | W |
| Device_Type | CharacterString (max. 16 characters) | O | W |
| Status_Flags | BACnetStatusFlags | R | R |
| Event_State | BACnetEventState | R | R |
| Reliability | BACnetReliability | O | - |
| Out_Of_Service | BOOLEAN | R | W |
| Polarity | BACnetPolarity | R | W |
| Inactive_Text | CharacterString (max. 8 characters) | O1 | W |
| Active_Text | CharacterString (max. 8 characters) | O1 | W |
| Change_Of_State_Time | BACnetDateTime | O2 | - |
| Change_Of_State_Count | Unsigned | O2 | - |
| Time_Of_State_Count_Reset | BACnetDateTime | O2 | - |
| Elapsed_Active_Time | Unsigned32 | O3 | - |
| Time_Of_Active_Time_Reset | BACnetDateTime | O3 | - |
| Minimum_Off_Time | Unsigned32 | O | - |
| Minimum_On_Time | Unsigned32 | O | - |
| Priority_Array | BACnetPriorityArray | R | R |
| Relinquish_Default | BACnetBinaryPV | R | W |
| Time_Delay | Unsigned | O4 | - |
| Notification_Class | Unsigned | O4 | - |
| Feedback_Value | BACnetBinaryPV | O4 | - |
| Event_Enable | BACnetEventTransitionBits | O4 | - |
| Acked_Transitions | BACnetEventTransitionBits | O4 | - |
| Notify_Type | BACnetNotifyType | O4 | - |
| Event_Time_Stamps | BACnetARRAY[3]ofBACnetTimeStamp | O4 | - |
| Profile_Name | CharacterString | O | - |
| DS-COVU-B (proprietary 700) | BOOLEAN: FALSE=no COV, TRUE=COV-U | O | W |

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The manual switches override the PresentValue at priority level 1 (manual life-safety) of the respective channel. Priority level 1 and 6 are not writable using the BACnet WriteProperty service.